Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-referenced application. In accordance with 37 C.F.R. 1.121, as revised June 30, 2003, claims are labeled as "Original", "Currently amended", "Canceled", "Withdrawn", "Previously presented", "New", or "Not entered".

Listing of the claims:

1. **(Previously presented)** A method of preparing a DNA vector, the method comprising steps of:

providing at least two collections of nucleic acid molecules that are DNA vector fragments, wherein each of the collections comprises at least two alternative DNA vector fragments to be included in the vector, and wherein;

i. DNA vector fragments within the first collection each comprise at least a first portion of a first vector element, and a first portion of a second vector element, and a first portion of a third vector element, which first portion of the second vector element cannot alone provide a second vector element function, and which first portion of the third vector element cannot alone provide a third vector element function; and

ii. DNA vector fragments within the second collection each comprise a second portion of the second vector element and a second portion of the third vector element, which second portion of the second vector element also cannot alone provide the second vector element function, and which second portion of the third vector element function also cannot alone provide the third vector element function,

the first and second portions of the second vector element being selected, and the DNA vector fragments being designed such that, when a DNA vector fragment from the first collection is ligated with a DNA vector fragment from the second collection, the second vector element function is reconstituted, wherein the second vector element is an element selected from the group consisting of: a replication element, a first vector detection element, an expression

element, a gene fusion element, a protein fusion element, a polylinker element, and combinations thereof;

wherein the first vector detection element comprises a selectable marker that imparts a growth advantage to vector-containing cells under selection conditions, a detectable marker comprising a gene encoding a protein that produces a detectable product, or both;

wherein the third vector element is an insert detection element, which insert detection element is designed such that, when a DNA fragment from the first collection is ligated with a DNA fragment from the second collection, a second vector detection element is created, and if an insert fragment becomes linked between the DNA fragment from the first collection and the DNA fragment of the second collection, the second vector detection element is not created,

admixing at least one DNA vector fragment from each collection with one another under linkage conditions so that hybrid molecules in which each of the DNA vector fragments is linked together are produced, wherein the admixing further comprises admixing at least one isolated nucleic acid molecule containing insert sequence, and

selecting a hybrid molecule distinguished from other hybrid molecules as being a molecule in which the second vector detection element is not created.

2. **(Previously presented)** The method of claim 1 wherein:

the DNA vector fragments in the first collection each contain at least a first overhang, and wherein the DNA vector fragments in the second collection each contain at least a second overhang, the first overhang being complementary to the second overhang.

3. **(Canceled)**

4. **(Previously presented)** The method of any one of claims 1-2, further comprising a step of:

introducing the selected hybrid molecule into a cell.

5. **(Previously presented)** The method of claim 1 wherein each alternative DNA vector fragment in each of the collections contains at least a portion of a vector element selected from the group consisting of: a replication element, a first vector detection element, an expression element, a gene fusion element, a protein fusion element, a polylinker element, and combinations thereof;

wherein the first vector detection element comprises a selectable marker that imparts a growth advantage to vector-containing cells under selection conditions, a detectable marker comprising a gene encoding a protein that produces a detectable product, or both.

6-13. **(Canceled)**

14. **(Previously Presented)** The method of claim 1 wherein:

the step of admixing comprises admixing under ligation conditions.

15. **(Previously presented)** The method of claim 1, wherein at least one of the DNA vector fragments contains a vector element or portion of a vector element, which element comprises a selectable genetic unit.

16. **(Previously presented)** The method of claim 1, wherein at least one of the DNA vector fragments contains a vector element or portion of a vector element, which element comprises a detectable genetic unit.

17. **(Previously presented)** The method of claim 1, wherein a single DNA vector fragment from each of the collections is selected prior to the step of admixing; and wherein

the step of admixing comprises admixing the selected DNA vector fragments with one another under linkage conditions so that a hybrid molecule in which each of the selected DNA vector fragments is linked together is produced.

18. **(Canceled)**

19. **(Previously presented)** The method of claim 1, wherein the first portion of the first vector element provides a first vector element function.

20. **(Previously presented)** The method of claim 1, wherein the first portion of the first vector element cannot alone provide a first vector element function.

21. **(Previously presented)** The method of claim 1, wherein the first portion of the first vector element comprises the entire first vector element.